



Edwal

INFORMATION BULLETIN:

EDWAL COLOR TONERS

COLOR
TONERS

What They Are

Edwal Color Toners are liquids for converting the silver image on black and white prints, slides, movie films, etc., into colored images. The print or slide or film is immersed in the appropriate color toner working solution with occasional agitation until the desired image color is obtained, whereupon the print, slide, or film is washed in running water 10 to 20 minutes to remove excess toner. Five colors — red, brown, yellow, green, and blue — are available. Intermediate colors can be obtained by toning first in one color toner and then in another.

Edwal Color Toners are available in 4-oz. bottles of concentrate which make 64-oz. of working solution, enough for about 120 4x5 prints. Also in 1-gal. jugs. The Toners themselves are single-solution type, with no offensive odor. They require no heating or other manipulation other than just inserting the print, slide, or film into the solution, agitating it occasionally, and putting it in the wash water when the desired tone has been obtained. Edwal Toners can be used at any temperature from 65° to 110°F. Toning is usually complete in 4 to 10 minutes, but the warmer the solution, the faster toning takes place.

The colored images produced by Edwal Toners are (except for the blue which is an iron type toner) dyes which are mordanted onto the silver image. The permanence of the colors is about the same as that of the colors in present day color films. However, it should be remembered that most dyes can be made to fade by long exposure to an atmosphere containing industrial fumes, especially in the presence of high humidity and bright direct sunlight. Under ordinary storage conditions, Edwal color toned images can be expected to last through a normal life time.

HOW TO USE EDWAL COLOR TONERS

Selecting the Subject and Color

Pictures to be toned with a single color should generally have a single dominant subject (a mountain, a forest, a person or animal, etc.) which will set the mood and determine the appropriate color to use.

The color selected should be one which is appropriate to the dominant subject in the picture. Thus people or animals are usually best in some shade of brown. 'Cold' subjects such as machinery, water scenes, snow scenes, moonlight pictures, etc., are best in blue. Forest, grassland, and foliage-type landscapes are best in green, sometimes with light toning in yellow to add a feeling of sunlight. Sunset and fire pictures are best toned in red, sometimes with after toning in yellow to get fire-orange. Still-life pictures for Christmas and novelty cards, etc., can be toned almost any color or combination of colors.

Preparing The Prints

While Edwal Color Toners will tone any kind of paper or film that has a silver image, the best effect on prints are obtained with warm tone papers such as Opal or Indiatone, developed in Edwal Super III or Platinum Developers. Exposure should be kept low enough to allow full development of the paper, but development should never be forced, since this tends to produce fog which will produce a color even though the fog itself may be invisible in the black and white print.

Prints should be fixed not more than 1 or 2 minutes in Edwal Hi-Speed Liquid Fix or Quick Fix without hardener, or IndustraFIX using a 1:5 dilution and should be washed completely free of hypo. The use of Edwal Hypo Eliminator is strongly recommended between fixing and washing to insure complete and rapid removal of fixer. Prints should not be ferrotyped before toning. Ferrotyping can be done after toning if desired.

Toning The Print, Slide, or Film

The toning solution (prepared according to the direction sheet with the bottle) is placed in a porcelain or glass or stainless steel or rubber tray and the print or slide or movie film is immersed in the toner, agitated occasionally, and examined from time to time to see how toning has progressed. The color will look somewhat brighter after the picture has been washed in water than while it is still in the toner, so it is best to tone and wash a sample print or slide first to test the time required for the correct final tone.

If a large number of prints are to have exactly identical color tone, they should all be inserted in the same batch of toner at the same time and toned identically. The toner gradually loses its strength as prints are toned in it, so that simultaneous toning is the best way to get matching tones on a number of different prints.

The longer the toning proceeds, the brighter will become the color until all the silver of the image has been used up. Toning for long periods (15 to 20 min. or more) will produce 'chalk-like' tones which have very little depth because of complete removal of the silver.

Toning Slides

Black and white slides for instructional purposes, especially those showing machinery, engineering setups, chemical equipment, etc. benefit by color toning because the addition of the extra color enables the audience to distinguish complicated detail much more readily. Also, keeps the audience awake. Slides are toned in exactly the same fashion as prints and should be washed in running water until the background areas are clear before being dried and mounted in the usual fashion.

Toning Movie Film

Black and white movie films, especially titles, can be advantageously toned. The film frequently has to be left in the toner several times as long as a print because the extreme hardening and the coating sometimes applied to the film slow down diffusion of the toners. However, the image eventually will take the color. A two-color effect can be obtained by toning the image one color, washing, and then dyeing the clear areas with a gelatine dye. Nice effects are obtained, for instance, by toning forest scenes green or buildings brown and then tinting the clear areas (mostly sky) in blue.

Intensification Of Negatives With Color Toners

Toning tends to intensify and increase the contrast of the image on film, so the color toners can be used in this fashion. The green toner is usually preferred. There is no effect on the grain structure. As a matter of fact, if a little background color is allowed to remain, it tends to hide graininess. Tone only until maximum density is obtained. Prolonged toning removes too much silver and flattens the image.

Toning As A Test For Completeness Of Washing

In commercial print making operations, the effectiveness of a print washing system can be tested by toning a washed print in Edwal Brown Toner. If the print is completely washed, it will tone satisfactorily, giving true brown tones over the entire image. If small quantities of hypo are present, the darker areas of the print will tone brown but the lighter areas will tone a rather wild, bright orange. If still more hypo is present, the darker areas of the print will tone very little, if at all. (Incidentally, very interesting effects can be obtained this way on Christmas cards, etc.) If still more hypo is present, the highlight areas of the print will fade out and the image will be completely lost.

Making of Full Color Pictures From Black and White Prints

Some commercial artists and others skilled with a brush use partial toning of different areas with Edwal Color Toners to make full color prints which are said to be less expensive than prints made by the usual color separation methods. The color toning method has the advantage that any desired hue can easily be obtained just by brushing on the appropriate color toner. Edwal Kwik-Wet is added to the color toners for this type of work in order to get ease of flow.

Keeping Characteristics

Edwal Color Toner concentrates are furnished with one ingredient in a small plastic cup on the 4-oz. bottles and in a separate bottle for the 1-gal. size. The toners will keep indefinitely as long as this separate ingredient is not added to the concentrate. Once the separate ingredient has been dissolved in the concentrate, the toner concentrate can be kept satisfactorily for six to eight weeks for all colors except blue which can be kept for a year or more. Once the toning solution has been used, it should not be stored for future use if the same tone is desired. However, dilution and storage of the toner for days or weeks before use often produces rather exotic shades which may be quite interesting.

Pertinent Points

Prolonged washing of a toned print, especially if the wash water is slightly alkaline, will gradually remove the image color. This is useful if a too strong color is to be 'washed out' somewhat, but should be otherwise avoided. The dyes themselves can be washed out of clothing with soap and water if stains should occur. Washing with water at room temperature (70° to 80°F) removes background color from the non-image areas more efficiently than washing with cold water.

Iron from chipped spots in processing trays or from water supply pipes will cause small blue or green spots on the surface of a print through reaction with the toner.

Clean highlights can be obtained in a toned print only if the highlights of the black and white prints are completely free of fog. Fog can be caused by using old or light-struck paper, forced development, insufficient restrainer in the developer, or use of an old fixing bath loaded with silver.

The highlights of a GREEN toned print may be more quickly cleared of excess dye by a short bath in a 1% sodium bisulfite solution (or 1% sodium sulfite plus 1% acetic acid). A brief bath in a 1% sodium carbonate solution will help clear a BLUE toned print. Stronger solutions will remove part or all of the color from the image itself, if desired. In all cases, at least 5 minutes wash in water should follow clearing.

Toning speed and brightness of the image can both be increased by adding between $\frac{1}{2}$ -oz. and 1-oz. of 28% acetic acid to the 64-oz. toner obtained from a 4-oz. bottle of brown, red, yellow, or green toner. There is little effect with the blue.

Toning Resin-Coated Papers

The Kodak RC papers tone satisfactorily in Edwal blue toner, but do not give good washout characteristics with the others. The blue toner gives a good tone in 5 minutes at 70° to 75°F., and a 5 minute wash clears the background.

All of the Edwal toners work well with the Luminos RD papers. Toning time is about 5 min. for blue and 10 min. for the other colors. A 5 to 10 minute wash is sufficient for blue, yellow, and brown, but red and green need about 15 min. wash.

Toning at 85° decreases the time about 30%, as against the time necessary for 70°. Washing at 85° cuts the wash time about 20% over a wash at 70°.

The RC and RD papers all tend to curl after toning. Some flattening effect is obtained if the prints are soaked with Super-Flat in a 1:5 dilution for 10 min. or longer, and then rinsed and put in the toner. Use of Super-Flat after toning is not recommended since it takes out some of the dye. Best flattening results are obtained by heat drying after the print has been toned and rinsed.